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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/041,853
Filing Date: January 07, 2002
Appellant(s): WAY, DAVID G.

MAILED
JAN 04 2007
GROUP 2600

Kurt M. Pankratz
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10 October 2006 appealing from the Office action mailed 11 May 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6654564	Colbourne et al.	11-2003
5608562	Delavaux et al.	3-1997
6456773	Keys	9-2002
2003/0031433	Feinberg	2-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 11, 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colbourne et al. (US Patent No. 6654564) in view of Delavaux et al. (US Patent No. 5608562), and further in view of Keys (US Patent No. 6456773).

Regarding claim 1, Colbourne et al. disclose a dispersion compensation system comprising: a dispersion compensation module (DCM) operable to receive optical input and provide optical output having a negative dispersion relative to the optical input (fig. 13b, element R3 and fig. 19, element 192) and a dispersion enhancement module (DEM) adapted to be

optically coupled between the DCM and an optical fiber having a positive dispersion (fig. 13b, element R1 and fig. 19, element 191), the DEM operable to selectively increase the positive dispersion provided by the optical fiber by a selected one of a plurality of amounts and to provide the optical input to the DCM, the optical input having a positive dispersion substantially equal to the positive dispersion of the optical fiber plus the selected one of the amounts of dispersion in the DEM (col. 1, lines 7-9 and lines 18-27, and col. 4, lines 31-61 and col. 9, line 64 to col. 10, line 61). Colbourne et al. do not disclose the dispersion enhancement module comprising a plurality of dispersion enhancement fibers. Delavaux et al. disclose a variable dispersion compensation device using switched DCFs and fixed DCFs over various compensation values, the switched DCFs controlled by a controller (figs. 5 and 9 and col. 3, line 43 to col. 4, line 10 and col. 4, lines 32-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the variable dispersion compensation devices of Delavaux et al. for the variable compensators of Colbourne et al. since dispersion compensation fiber is conventional and since the etalons of Colbourne require dimensions and free spectral range that are dependent on channel spacing of a multi-wavelength signal. Keys discloses tailoring dispersion compensating modules for specific compensation values by using various segments of DCF, including positive and negative dispersion segments (col. 1, line 57 to col. 2, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a set of positive dispersion segments and a set of negative dispersion segments in each of the DCF-based dispersion compensation devices of the combination of Colbourne et al. and Delavaux et al., in order to be able to use the same dispersion compensation device for spans of varying length and fiber types, by connecting the appropriate segments of DCF within the device (negative, positive, or both), as taught by Keys.

Regarding claim 2, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, wherein a magnitude of the positive dispersion of the optical input is substantially equal to a magnitude of the negative dispersion of the DCM, such that the optical output has a dispersion near to zero (Colbourne et al.: col. 4, lines 31-61 and Keys: col. 1, line 57 to col. 2, line 11).

Regarding claim 3, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, wherein the DCM is designed to compensate for dispersion along a fixed length of an optical fiber type, the optical fiber type having a positive dispersion per unit length and wherein, if the optical fiber coupled to the DEM has an actual length less than the fixed length, the selected amount of dispersion in the DEM increases dispersion by an amount substantially equal to dispersion resulting from a length of the optical fiber type equal to the difference of the fixed length and the actual length (Colbourne et al.: col. 1, lines 7-9 and lines 18-27 and col. 4, lines 31-61 and Keys: col. 1, line 57 to col. 2, line 11).

Regarding claim 4, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, and discloses two amplifiers, where the DCM is between the two amplifiers (Delavaux et al.: fig. 1 and col. 2, lines 53-64), but does not disclose the set of positive DCFs before the amplifier in front of the DCM. However, based on the pre-amp teaching of Devalaux et al., it would have been obvious to one of ordinary skill in the art at the time of the invention to use a pre-amplifier before both a set of positive DCFs and a set of negative DCFs for the combination of Colbourne et al., Delavaux et al. and Keys since each DCF fiber set has a length of fiber that contributes loss to the signal. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention that the serial

order of devices within the dispersion compensation device would be DEM then DCM as suggested by Colbourne et al.

Regarding claim 5, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, and disclose that the DCM comprises dispersion compensation fiber having a defined negative dispersion per unit length (Colbourne et al.: col. 9, lines 12-14 and Keys: col. 1, lines 32-67, where a DCF fiber segment with negative dispersion inherently has a definite negative dispersion per unit length).

Regarding claim 6, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, and discloses that the DEM comprises a plurality of dispersion enhancement fibers each having a defined positive dispersion per unit length, each of the dispersion enhancement fibers having a different length (Delavaux et al.: col. 3, lines 43-56 and Keys: col. 1, lines 57-67, where a DCF fiber segment with positive dispersion inherently has a definite positive dispersion per unit length).

Regarding claim 7, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, wherein the DEM is operable to selectively couple one or more of the dispersion enhancement fibers together to form an optical path coupling the optical fiber to the DCM through the selected one or more of the dispersion enhancement fibers (Delavaux et al.: col. 3, lines 43-56 and Keys: col. 1, lines 57-67).

Regarding claim 8, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion compensation system of claim 1, wherein the DEM comprises a controller operable to: determine the negative dispersion of the DCM; determine the positive dispersion of the optical fiber; and determine the selected one of the amounts of dispersion in the DEM to provide the optical input having a positive dispersion substantially equal to an

inverse of the negative dispersion of the DCM (Colbourne et al.: col. 9, line 64 to col. 10, line 61 and col. 11, lines 3-22 and Delavaux et al.: col. 3, lines 10-42).

Regarding claim 9, Colbourne et al. disclose a method for dispersion compensation comprising: providing an optical transport fiber coupling a first network element and a second network element, the transport fiber having a first positive dispersion (col. 1, lines 7-9 and lines 18-27); providing a dispersion enhancement module disposed between the transport fiber and the second network element (fig. 13b, element R1 and fig. 19, element 191); determining a negative dispersion of the second network element (col. 11, lines 3-22); and configuring the dispersion enhancement module to provide second positive dispersion, the sum of the first positive dispersion and the second positive dispersion substantially equal to the magnitude of the negative dispersion (col. 4, lines 31-61 and col. 9, line 64 to col. 10, line 61). Colbourne et al. do not disclose that routing signals from the transport fiber through the dispersion enhancement module comprises routing signals through one or more dispersion enhancement fibers. Delavaux et al. disclose a variable dispersion compensation device using switched DCFs and fixed DCFs over various compensation values, the switched DCFs controlled by a controller (figs. 5 and 9 and col. 3, line 43 to col. 4, line 10 and col. 4, lines 32-63). Keys discloses tailoring dispersion compensating modules for specific compensation values by using various segments of DCF, including positive and negative dispersion segments (col. 1, line 57 to col. 2, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Delavaux et al. and Keys with Colbourne et al. as described above for claim 1.

Regarding claim 11, the combination of Colbourne et al., Delavaux et al. and Keys discloses the method claim 9, and that the negative dispersion in the second network element results from dispersion compensation fiber having a defined negative dispersion per unit length

(Colbourne et al.: col. 9, lines 12-14 and Keys: col. 1, lines 32-67, where a DCF fiber segment with negative dispersion inherently has a definite negative dispersion per unit length).

Regarding claim 13, Colbourne et al. disclose a dispersion compensation system comprising: a dispersion compensation device operable to provide optical output having a negative dispersion (fig. 13b, element R3 and fig. 19, element 192) and a dispersion enhancement module (DEM) (fig. 13b, element R1 and fig. 19, element 191) adapted to be optically coupled to an optical fiber having a positive dispersion and to receive an optical input from the optical fiber, the DEM operable to selectively increase the positive dispersion provided by the optical fiber by a selected one of a plurality of amounts, the optical input having a positive dispersion substantially equal to the positive dispersion of the optical fiber plus the selected one of the amounts of dispersion in the DEM (col. 1, lines 7-9 and lines 18-27, and col. 4, lines 31-61 and col. 9, line 64 to col. 10, line 61). Colbourne et al. do not disclose a first optical amplifier and a second optical amplifier and negative dispersion compensation fiber optically coupled between the first optical amplifier and the second optical amplifier, and do not disclose the dispersion enhancement module comprising a plurality of dispersion enhancement fibers. Delavaux et al. disclose using pre and post amplifiers with a DCF-based variable dispersion compensation device (fig. 1 and col. 2, lines 53-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the variable dispersion compensation devices of Delavaux et al. for the variable compensators of Colbourne et al. since dispersion compensation fiber is conventional and since the etalons of Colbourne require dimensions and free spectral range that are dependent on channel spacing of a multi-wavelength signal, and it would have been obvious to one of ordinary skill in the art at the time of the invention to use a pre-amplifier and post-amplifier when using DCF since each DCF fiber set has a length of fiber that contributes loss to the signal. Keys discloses tailoring dispersion compensating modules

for specific compensation values by using various segments of DCF, including positive and negative dispersion segments (col. 1, line 57 to col. 2, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a set of positive dispersion segments and a set of negative dispersion segments in each of the DCF-based dispersion compensation devices of the combination of Colbourne et al. and Delavaux et al., in order to be able to use the same dispersion compensation device for spans of varying length and fiber types, by connecting the appropriate segments of DCF within the device (negative, positive, or both), as taught by Keys. Based on the pre-amp teaching of Devalaux et al., it would have been obvious to one of ordinary skill in the art at the time of the invention to use a pre-amplifier before each set of DCFs for the combination of Colbourne et al., Delavaux et al. and Keys since each DCF fiber set has a length of fiber that contributes loss to the signal. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention that the serial order of devices within the dispersion compensation device would be DEM then DCM as suggested by Colbourne et al.

Regarding claim 14, the combination of Colbourne et al., Delavaux et al. and Keys disclose the dispersion compensation system of claim 13, wherein the DEM comprises a plurality of dispersion enhancement fibers each having a defined positive dispersion per unit length, each of the dispersion enhancement fibers having a different length (Delavaux et al.: col. 3, lines 43-56 and Keys: col. 1, lines 57-67, where a DCF fiber segment with positive dispersion inherently has a definite positive dispersion per unit length).

Regarding claim 15, the combination of Colbourne et al., Delavaux et al. and Keys disclose the dispersion compensation system of claim 14, wherein the DEM is operable to selectively couple one or more of the dispersion enhancement fibers together to form an optical

path coupling the optical fiber to the DCM through the selected one or more of the dispersion enhancement fibers (Delavaux et al.: col. 3, lines 43-56 and Keys: col. 1, lines 57-67).

Regarding claim 16, Colbourne et al. disclose a dispersion enhancement module (fig. 13b, element R1 and fig. 19, element 191) adapted to be optically coupled to a dispersion compensation module having a fixed negative dispersion (fig. 13b, element R3 and fig. 19, element 192 and col. 4, lines 53-61), the dispersion enhancement module comprising: an optical input adapted to couple to an optical transport fiber and an optical output adapted to couple to the dispersion compensation module, wherein optical signals from the optical output have a positive dispersion substantially equal to a sum of positive dispersion of the transport fiber and positive dispersion of the optical path (col. 1, lines 7-9 and lines 18-27, and col. 4, lines 31-61 and col. 9, line 64 to col. 10, line 61). Colbourne et al. do not disclose the dispersion enhancement module comprising a plurality of switched dispersion enhancement fibers forming a path. Delavaux et al. disclose a variable dispersion compensation device using switched DCFs and fixed DCFs over various compensation values, forming a path, the switched DCFs controlled by a controller (figs. 5 and 9 and col. 3, line 43 to col. 4, line 10 and col. 4, lines 32-63). Keys discloses tailoring dispersion compensating modules for specific compensation values by using various segments of DCF, including positive and negative dispersion segments (col. 1, line 57 to col. 2, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Delavaux et al. and Keys with Colbourne et al. as described above for claim 1.

Regarding claim 17, the combination of Colbourne et al., Delavaux et al. and Keys disclose the dispersion enhancement module of claim 16, wherein a magnitude of the positive dispersion of the optical signals is substantially equal to a magnitude of the negative dispersion of the dispersion compensation module (Colbourne et al.: col. 1, lines 7-9 and lines 18-27, and

col. 4, lines 31-61 and col. 9, line 64 to col. 10, line 61 and Keys: col. 1, line 57 to col. 2, line 11).

Regarding claim 19, the combination of Colbourne et al., Delavaux et al. and Keys disclose the dispersion enhancement module of claim 16, further comprising a controller operable to: determine the negative dispersion of the dispersion compensation module, determine the positive dispersion of the optical transport fiber, and configure the switches such that a magnitude of the positive dispersion of the optical signals from the optical output is substantially equal to a magnitude of the negative dispersion of the dispersion compensation module (Colbourne et al.: col. 9, line 64 to col. 10, lines 61 and col. 11, lines 3-22 and Delavaux et al.: col. 3, lines 10-42).

Regarding claim 20, the combination of Colbourne et al., Delavaux et al. and Keys disclose the dispersion enhancement module of claim 16, wherein the switches are further operable to optically couple the optical input and the optical output such that the optical path bypasses the dispersion enhancement fibers, as described above for claim 16 for the dispersion compensation device of the combination of Colbourne et al., Delavaux et al. and Keys, where the positive dispersion fibers will be bypassed in any case where positive dispersion is not needed to create the dispersion compensation value required for compensation of a signal received from a span.

Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colbourne et al. (US Patent No. 6654564) in view of Delavaux et al. (US Patent No. 5608562), and further in view of Keys (US Patent No. 6456773) as applied to claims 1-9, 11, 13-17, 19 and 20 above, and further in view of Feinberg (US Patent Application Publication No. 2003/0031433).

Regarding claim 12, the combination of Colbourne et al., Delavaux et al. and Keys discloses the method of claim 9, and the controller determining the correct dispersion compensation adjustment (Colbourne et al.: col. 11, lines 3-22 and Delavaux et al.: col. 3, lines 10-42), but do not disclose detecting a switch from the transport fiber to a backup optical transport fiber, the backup transport fiber having a third positive dispersion; and reconfiguring the dispersion enhancement module to provide fourth positive dispersion, the sum of the third positive dispersion and the fourth positive dispersion substantially equal to the magnitude of the negative dispersion. Feinberg disclose a protected optical transmission system where different dispersion compensation values are used for each of the received working and protection signals (fig. 4, elements 420, 425 and 322 and paragraphs 0037 and 0041). It would have been obvious to one of ordinary skill in the art at the time of the invention that a protection switched optical input could be supplied to the dispersion compensation system of the combination of Colbourne et al., Delavaux et al. and Keys, and that the controller of the combination of Colbourne et al., Delavaux et al. and Keys would detect a change in the needed amount of dispersion compensation if the incoming fiber signal was switched due to a protection switch, in order to provided the advantage of adding a protected input to the combination of Colbourne et al., Delavaux et al. and Keys without having to duplicate the dispersion compensation system since it would automatically adjust the dispersion compensation for either of the working or protect input signal.

Regarding claim 18, the combination of Colbourne et al., Delavaux et al. and Keys discloses the dispersion enhancement module of claim 16, and the controller determining the correct dispersion compensation adjustment (Colbourne et al.: col. 11, lines 3-22), but do not disclose a controller operable to: detect a switch from the optical transport fiber to a backup optical transport fiber; determine a difference in magnitudes of the negative dispersion of the

dispersion compensation module and a positive dispersion of the backup optical transport fiber; and reconfigure the optical switches such that the optical path has a positive dispersion equal to the difference in the magnitudes. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Feinberg with the combination of Colbourne et al., Delavaux et al. and Keys as described above for claim 12.

(10) Response to Argument

On appeal brief page 12, under section A, with respect to claims 1-9, 11, 13-17, 19 and 20, the appellant argues against the Colbourne-Delavaux-Keys combination, first arguing that the combination fails to teach or suggest all elements of the claims, and second arguing that there is no suggestion or motivation to modify or combine the references and that the references teach away from the claims and/or other cited references. However, the appellant's arguments are not persuasive.

Regarding the first argument, under section A.1, on appeal brief page 13, lines 2-6, the appellant asserts that the combination fails to teach or suggest "a dispersion enhancement module (DEM) operable including a plurality of dispersion <u>enhancement</u> fibers and operable to selectively increase the positive dispersion provide by the optical fiber by a selected one of a plurality of amounts" (appellant's emphasis). Then, appeal brief page 13, lines 8-28 summarizes the appellants understanding of the Keys, Delavaux and Colbourne references. Then the appellant elaborates the argument, on appeal brief page 14, lines 3-31, in essence arguing that even if Colbourne teaches a dispersion enhancement module (which Colbourne does, as cited in the rejections), it is one that is not based on dispersion enhancement fibers, and that Delavaux and Keys fail to teach or suggest the dispersion enhancement fibers limitation.

With respect to Delavaux, the appellant's argument against Delavaux is based on an incorrect understanding of Delavaux. The appellant argues that Delavaux teaches negative dispersion fibers (citing Delavaux col. 1, lines 37-38) and not positive dispersion fibers. However, this argument is not persuasive because it's based on a citation from the background section of Delavaux, referring to what Delavaux considers prior art, and not the citation from Delavaux relevant to the combination (namely, Delavaux figs. 5 and 9 and col. 3, line 43 to col. 4, line 10 and col. 4, lines 32-63).. As described in the rejections, the relevant teaching of Delavaux is a variable dispersion compensation device that uses switched dispersion compensation fibers and fixed dispersion compensation fibers having various dispersion values, the switched dispersion compensation fibers controlled by a controller. This teaching does not disclose whether Delavaux's specific dispersion compensation fibers are negative or positive in dispersion value; only that the fibers have different lengths and different amounts of dispersion (col. 3, lines 9-11). Colbourne already provides a teaching of dispersion compensation that uses negative dispersion and positive dispersion.

With respect to Keys, the appellant argues, on appeal brief page 15, lines 8-10 that Keys "fails to teach or suggest a dispersion enhancement module operable including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber". The appellant is essentially arguing here that Keys doesn't teach or suggest the entire "dispersion enhancement module" and it's sub-features. This is not a persuasive argument because Keys is not solely relied on in the rejections for reading on the entire dispersion enhancement module. Colbourne, Delavaux and Keys in combination read on the dispersion enhancement module.

On appeal brief page 15, lines 1-10, the appellant further argues against Keys, acknowledging that Keys discloses DCF segments having a positive dispersion but arguing that

the Keys passage, "[s]elected DCF segments are coupled to one another to provide a desired net dispersion to offset the dispersion associated with the transmission optical fiber" (Keys col. 1, lines 59-63), does not teach or suggest the claimed dispersion enhancement fibers. However, this argument is not persuasive because Keys definitely teaches using both positive dispersion fiber segments and negative dispersion fiber segments. Any of these positive dispersion fibers of Keys are "dispersion enhancement fibers" by nature, because the meaning of the claimed "dispersion enhancement fibers" is simply fibers that have positive dispersion. So anytime one of Keys' positive dispersion fiber segments is used in conjunction with the transmission fiber (which inherently has positive dispersion), it is adding a selected amount of positive dispersion to the positive dispersion contributed by the transmission fiber. The claimed "positive dispersion substantially equal to" (e.g. claim 1, lines 8-10) is simply the dispersion sum of the dispersion enhancements fibers and the transmission fiber (and not accounting for the claimed DCM's negative dispersion).

On appeal brief, page 15, lines 14-16, the appellant asserts that Delavaux and Keys provide two alternate techniques for providing a dispersion compensation module that implements a set amount of negative dispersion. However, the teachings of Delavaux and Keys are not providing "alternate" techniques; the specific teaching of negative and positive dispersion compensation fiber segments by Keys provides unique information in the combination, since Delavaux broadly discloses dispersion compensation fibers having "different amounts of dispersion" without further specifiying those amounts as negative, positive, or both. Further, as already established above, the Delavaux and Keys teachings are not limited to "negative dispersion".

Regarding the second argument, under section A.2, on appeal brief page 15, line 28 to page 16, line 4, the appellant cites *In re Dembiczak*, quoting that while "evidence of a

suggestion, teaching, or motivation... may flow from the prior art references themselves, the knowledge of one or ordinary skill in the art, or, in some cases, the nature of the problem to be solved, ... [t]he range of sources available... does not diminish the requirement for actual evidence". This piecemeal quotation is unpersuasive as an argument, because it essentially amounts to a statement that "evidence of a suggestion, teaching, or motivation... does not diminish the requirement for actual evidence", which does not make sense.

On appeal brief page 16, lines 14-21, under section A.2.a, the appellant argues that Colbourne "expressly teaches away from the use of dispersion compensation fibers", and that "[r]ather than using dispersion compensation fibers, Colbourne proposes the use of optical filters", and that "Colbourne discourages the use of dispersion compensation fibers". In fact, Colbourne teaches use of dispersion compensation fibers for providing a fixed negative or positive dispersion for optical fibers (col. 9, lines 12-14). Also, Colbourne expressly uses dispersion compensation fibers along with Colbourne's optical filter in col. 11, lines 3-22. Therefore, it is not reasonable to conclude that Colbourne teaches away from the use of dispersion compensation fibers, or that Colbourne teaches optical filters instead of dispersion compensation fibers when the two are disclosed as useful together, or that Colbourne discourages the use of dispersion compensation fibers. On appeal brief page 16, line 20 to page 17, line 5, the appellant quotes Colbourne and concludes that Colbourne identifies his invention as having an advantage over a system that relies upon dispersion compensation fibers and that Colbourne is criticizing the use of dispersion compensating fiber. However, the citation (Colbourne col. 8, line 61 to col. 9, line 16) actually establishes that Colbourne's optical filter invention has advantages over a system that relies upon dispersion compensation fibers <u>in the case of a de-interleaved optical signal having periodic dispersion across the band of wavelengths of interest</u>. Colbourne's preferred embodiment for the case of an optical signal

having periodic dispersion across the band of wavelengths of interests does not constitute a teaching away from a broader disclosure or nonpreferred embodiments (MPEP § 2123), namely, Colbourne's broader disclosure of using positive or negative dispersion compensation fibers for dispersion compensation. Further, Colbourne isn't criticizing the use of dispersion compensation fiber since he uses it himself.

On appeal brief page 17, lines 6-13, the appellant argues, quoting *In re Gurley*, that Colbourne teaches away because "a person of ordinary skill, upon reading the reference... would be led in a direction divergent from the path that was taken by the applicant". As already established above, Colbourne does not teach away, and this further argument is also not persuasive because the appellant's "path" is broad, addressing dispersion compensation of optical signals in general. Colbourne's preferred embodiment, addressing dispersion compensation of a specific type of optical signal, does not represent a direction divergent from the appellant's broad path; in fact, it represents a direction within the broad path of the appellant.

On appeal brief page 17, lines 23-26, under section A.2.b, the appellant argues again that Delavaux and Keys teach alternate techniques for accomplishing a similar end result and that one of ordinary skill would not be motivated to pick and choose different aspects of two alternates, but rather would be inclined to select only one of the two. However, as already described above, the teachings of Delavaux and Keys are not providing "alternate" techniques in contention with each other. Nor is the combination based on trying to bodily incorporate Keys with Delavaux. Rather, the explicit teaching of negative and positive dispersion compensation fiber segments by Keys provides unique information, since Delavaux discloses dispersion compensation fibers having "different amounts of dispersion" without further defining those amounts as negative, positive, or both.

On appeal brief, page 17, lines 30-32 and page 18, lines 8-11, the appellant argues that the examiner fails to provide a compelling explanation and evidence for combining the two alternative techniques of Delavaux and Keys in the same device. Again, the combination of the rejections does not involve combining "two alternate techniques" in the same device; rather, Keys teaches a feature in specifics that Delavaux only addresses broadly, as described above.

On appeal brief page 18, under section B, the appellant argues that the Colbourne-Delavaux-Keys-Feinberg combination fails to teach or suggest the limitations from claims 12 and 18, depending from claims 9 and 16, for the reasons previously argued by the appellant, with Feinberg failing to remedy the deficiencies argued for the Colbourne-Delavaux-Keys combination. However, since the arguments against the Colbourne-Delavaux-Keys combination are not persuasive, as described above, this argument against the Colbourne-Delavaux-Keys-Feinberg combination is also not persuasive.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Nathan Curs

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